

Amendments to the Claims:

Cancel Claims 1 – 16

17. (Original) A basic hydrogen peroxide (BHP) recycling system comprising
a chemical oxygen-iodine laser (COIL);
a separating apparatus which receives spent BHP from the COIL and separates the
spent BHP into a purified alkali hydroxide / H_2O_2 stream, which is returned to the COIL, and an
aqueous alkali chloride recycle stream having residual alkali hydroxide and H_2O_2 ;
a chloralkali cell;
a reactor which receives the alkali chloride recycle stream from the separating
apparatus, a depleted anolyte stream from the chloralkali cell, a first alkali hydroxide stream
from the chloralkali cell, and a first Cl_2 gas stream from the chloralkali cell, and which evolves a
treated alkali chloride stream substantially free of alkali hydroxide and H_2O_2 which is supplied to
the chloralkali cell and an oxygen off gas stream; and
a peroxide generator which receives a second alkali hydroxide stream from the
chloralkali cell and produces a regenerated stream of BHP, which is supplied to the COIL,
wherein a second Cl_2 gas stream is supplied from the chloralkali cell to the COIL.

18. (Original) The system of claim 17, wherein the reactor is a packed column
reactor having inlets in the upper region of the column for receiving the alkali chloride recycle
stream, the depleted anolyte stream, and the first alkali hydroxide stream; an outlet in the upper
region of the column for offgassing of oxygen; an inlet in the lower region of the column for
receiving the first Cl_2 gas stream; and an outlet in the lower region of the column for the
evolution of the treated alkali chloride stream.